

## ***IN THE SPECIFICATION***

Please replace paragraph 12 with the following paragraph.

[0012] The invention is a system and method for measuring a first phase difference between first and second reflected polarized light signal components, the method comprising the steps of transmitting a first incident light signal toward a first object, wherein said first object is one of a magnetic disk and a glass substrate, separating from a reflected light signal that has reflected off said first object a first mixed reflected polarized light signal component having a first phase and a second mixed reflected polarized light signal component having a second phase that is different from said first phase, wherein said first mixed reflected polarized light signal component comprises both P-polarized and S-polarized light relative to a plane of incidence of said reflected light signal, and wherein said second mixed reflected polarized light signal component comprises both P-polarized and S-polarized light relative to the plane of incidence of said reflected light signal. Detecting a first intensity of said first mixed reflected polarized light signal component, detecting a second intensity of said second mixed reflected polarized light signal component; and determining a difference in phase between said first and second mixed reflected polarized light signal components based upon said first and second intensities.

## ***IN THE CLAIMS***

Please amend the claims as set forth below.

5           1.       (Currently Amended) A method for measuring a ~~first~~ phase difference between  
6 first and second mixed reflected polarized light signal components, the method comprising the  
7 steps of:

8           transmitting a first incident light signal toward a first object, wherein said first object is  
9 one of a magnetic disk and a glass substrate;

10          separating from a reflected light signal that has reflected off said first object a the first  
11 mixed reflected polarized light signal component having a first phase and a the second mixed  
12 reflected polarized light signal component having a second phase that is different from said first  
13 phase, wherein said first mixed reflected polarized light signal component comprises both P-  
14 polarized and S-polarized light relative to a plane of incidence of said reflected light signal, and  
15 wherein said second mixed reflected polarized light signal component comprises both P-  
16 polarized and S-polarized light relative to the plane of incidence of said reflected light signal;

17          detecting a first intensity of said first mixed reflected polarized light signal component;

18          detecting a second intensity of said second mixed reflected polarized light signal  
19 component; and

20          determining a difference in phase between said first and second mixed reflected polarized  
21 light signal components based upon said first and second intensities.

1           2.       (Original) The method of claim 1 further comprising the step of:

2           determining a texture on said first object based upon said difference in phase.

1           3.       (Original) The method of claim 1, further comprising the step of:

2           determining a thickness of a lubricant on said first object based upon said difference in  
3 phase.

1           4.       (Original) The method of claim 1, further comprising the step of:  
2           determining a thickness of a carbon layer of said first object based upon said difference in  
3   phase.

1           5.       (Original) The method of claim 1, further comprising the step of:  
2           determining a magnetic characteristic of said first object based upon said difference in  
3   phase.

1           6.       (Original) The method of claim 1, further comprising the step of:  
2           polarizing said first incident light signal to generate a first incident polarized light signal  
3   component and a second incident polarized light signal component of said first incident light  
4   signal, said first and second incident polarized light signal components being orthogonally  
5   polarized.

1           7.       (Original) The method of claim 1, wherein said first and second mixed reflected  
2   polarized light signal components are orthogonally polarized.

1           8.       (Original) The method of claim 1, further comprising the step of:  
2           measuring the magneto-optic Kerr effect based upon said difference in phase.

1           9.       (Original) The method of claim 8, further comprising the steps of:  
2           determining a defect exists at a first location on the first object based upon said first and  
3   second intensities; and  
4           marking said first location to identify said defect.

1           10.    (Original) The method of claim 9, wherein said marking step further comprises  
2 the steps of:  
3           moving a mechanical scribe to a position substantially adjacent to said first location;  
4           positioning said mechanical scribe at substantially said first location; and  
5           marking said first location with said mechanical scribe.

1           11.    (Original) The method of claim 1, further comprising the steps of:  
2           determining a defect exists at a first location on the first object based upon said first and  
3 second intensities; and  
4           marking said first location to identify said defect.

1           12.    (Original) The method of claim 11, wherein said marking step further comprises  
2 the steps of:  
3           moving a mechanical scribe to a position substantially adjacent to said first location;  
4           positioning said mechanical scribe at substantially said first location; and  
5           marking said first location with said mechanical scribe.

1           13.    (Original) The method of claim 1 wherein the step of determining a difference  
2 includes:  
3           determining a difference between said first and second intensities to reduce the effect on  
4 at least one measured value of a texture on said first object.

1           14.    (Currently Amended) A system for measuring a first phase difference between  
2 first and second mixed reflected polarized light signal components, comprising:

3 a light source for transmitting a first incident light signal toward a first object wherein  
4 said first object is one of a magnetic disk and a glass substrate;  
5 a polarization splitter for separating from a first reflected light signal, that has reflected  
6 off of said first object, the first mixed reflected polarized light signal component having a first  
7 phase, and the second mixed reflected polarized light signal component having a second phase  
8 that is different from said first phase, wherein the first mixed reflected polarized light signal  
9 component comprises both P-polarized and S-polarized light relative to a plane of incidence of  
10 said reflected light signal, and wherein the second mixed reflected polarized light signal  
11 component comprises both P-polarized and S-polarized light relative to the plane of incidence of  
12 said reflected light signal;  
13 a first detector for detecting a first intensity of the first mixed reflected polarized light  
14 signal component;  
15 a second detector for detecting a second intensity of the second mixed reflected polarized  
16 light signal component; and  
17 a phase determinator for determining a difference in phase between the first and second  
18 mixed reflected polarized light signal components based upon said first and second intensities.

1 15. (Original) The system of claim 14, wherein said phase determinator comprises:  
2 a texture eliminator for determining a difference between said first and second intensities  
3 to reduce the effect on at least one measured value of a texture on said first object.

1 16. (Original) The system of claim 14, further comprising:  
2 a thickness determinator for determining a thickness of a lubricant on said first object  
3 based upon said difference in phase.

1           17.     (Original) The system of claim 14, further comprising:  
2           a carbon thickness determinator for determining a thickness of a carbon layer of said first  
3 object based upon said difference in phase.

1           18.     (Original) The system of claim 14, further comprising:  
2           a magnetic identifier for determining a magnetic characteristic of said first object based  
3 upon said difference in phase.

1           19.     (Original) The system of claim 14, further comprising:  
2           a Kerr effect determinator for measuring the magneto-optic Kerr effect based upon said  
3 difference in phase.

1           20.     (Original) The system of claim 19, further comprising:  
2           a defect determinator for determining a defect exists at a first location on the first object  
3 based upon said first and second intensities; and  
4           a mechanical scribe for marking said first location to identify said defect.

1           21.     (Original) The system of claim 20, further comprising:  
2           a scribe positioner for moving a mechanical scribe to a position substantially adjacent to  
3 said first location before marking said first location.

1           22.     (Original) The system of claim 14, further comprising:  
2           a defect determinator for determining a defect exists at a first location on the first object  
3 based upon said first and second intensities; and  
4           a mechanical scribe for marking said first location to identify said defect.

1           23.    (Original) The system of claim 22, further comprising:  
2           a scribe positioner for moving a mechanical scribe to a position substantially adjacent to  
3   said first location before marking said first location.

1           24.    (Original) The system of claim 14, further comprising:  
2           a polarizer for polarizing said first incident light signal to generate a first incident  
3   polarized light signal component and a second incident polarized light signal component of said  
4   first incident light signal, said first and second incident polarized light signal components being  
5   orthogonally polarized.

1           25.    (New) The method of claim 1, wherein said first incident light signal is an  
2   ultraviolet light signal.

1           26.    (New) The method of claim 1, wherein said first incident light signal is an  
2   infrared light signal.

1           27.    (New) The method of claim 1, wherein said first incident light signal is a visible  
2   light signal.

1           28.    (New) The system of claim 14, wherein said first incident light signal is an  
2   ultraviolet light signal.

1           29.    (New) The system of claim 14, wherein said first incident light signal is an  
2   infrared light signal.

1           30.    (New) The system of claim 14, wherein said first incident light signal is an  
2   visible light signal.

1           31.   (New) A method for measuring a phase difference between first and second mixed  
2 reflected polarized lights signals, comprising the steps of:

3           transmitting a first incident light signal toward a first object, wherein said first object is  
4 one of a magnetic disk and a glass substrate;

5           adjusting a rotational angle of a quarter wave plate that receives a reflected light signal  
6 that has reflected off said object;

7           separating from a quarter wave plate transmitted light signal, that has passed through said  
8 quarter wave plate, the first mixed reflected polarized light signal component having a first phase  
9 and the second mixed reflected polarized light signal component having a second phase that is  
10 different from said first phase, wherein the first mixed reflected polarized light signal component  
11 comprises both P-polarized and S-polarized light relative to a plane of incidence of said reflected  
12 light signal, and wherein the second mixed reflected polarized light signal component comprises  
13 both P-polarized and S-polarized light relative to the plane of incidence of said reflected light  
14 signal;

15           detecting a first intensity of the first mixed reflected polarized light signal component;

16           detecting a second intensity of the second mixed reflected polarized light signal  
17 component; and

18           determining a difference in phase between the first and second mixed reflected polarized  
19 light signal components based upon said first and second intensities.

1           32.   (New) The method of claim 31 wherein said angle of said quarter wave plate is  
2 adjusted to substantially optimize the sensitivity of said reflected light signal to at least one of a  
3 Kerr effect, carbon thickness, defect or lubricant thickness of said object.



- 1 33. (New) The method of claim 31 further comprising the step of:  
2 determining a texture on said first object based upon said difference in phase.
- 1 34. (New) The method of claim 31, further comprising the step of:  
2 determining a thickness of a lubricant on said first object based upon said difference in  
3 phase.
- 1 35. (New) The method of claim 31, further comprising the step of:  
2 determining a thickness of a carbon layer of said first object based upon said difference in  
3 phase.
- 1 36. (New) The method of claim 31, further comprising the step of:  
2 determining a magnetic characteristic of said first object based upon said difference in  
3 phase.
- 1 37. (New) The method of claim 31, further comprising the step of:  
2 determining a Kerr effect of said first object based upon said difference in phase.
- 1 38. (New) The method of claim 31 wherein said step of adjusting said rotational  
2 angle utilizes a motor.
- 1 39. (New) The method of claim 38 wherein said motor is an electromagnetic motor.
- 1 40. (New) The method of claim 38 wherein said motor is a pneumatic motor.
- 1 41. (New) The method of claim 38 wherein said motor is a piezoelectric motor.
- 1 42. (New) A system for measuring a phase difference between first and second mixed  
2 reflected polarized light signal components, comprising:

3 a light source for transmitting a first incident light signal toward a first object wherein  
4 said first object is one of a magnetic disk and a glass substrate;  
5 a quarter wave plate, capable of being adjusted and disposed to receive a reflected light  
6 signal, said reflected light signal having reflected off said first object;  
7 a polarization splitter for separating from a quarter wave plate transmitted light signal,  
8 that has passed through said quarter wave plate, the first mixed reflected polarized light signal  
9 component having a first phase, and the second mixed reflected polarized light signal component  
10 having a second phase that is different from said first phase, wherein the first mixed reflected  
11 polarized light signal component comprises both P-polarized and S-polarized light relative to a  
12 plane of incidence of said reflected light signal, and wherein the second mixed reflected  
13 polarized light signal component comprises both P-polarized and S-polarized light relative to the  
14 plane of incidence of said reflected light signal;  
15 a first detector for detecting a first intensity of the first mixed reflected polarized light  
16 signal component;  
17 a second detector for detecting a second intensity of the second mixed reflected polarized  
18 light signal component; and  
19 a phase determinator for determining a difference in phase between the first and second  
20 mixed reflected polarized light signal components based upon said first and second intensities.

1 43. (New) The system of claim 42 wherein said angle of said quarter wave plate is  
2 adjusted to substantially optimize the sensitivity of said received reflected light signal to at least  
3 one of a Kerr effect, carbon thickness, defect or lubricant thickness of said object.

- 1           44.   (New) The system of claim 42 further comprising:  
2           a texture determinator, for determining a texture on said first object based upon said  
3 difference in phase.
- 1           45.   (New) The system of claim 42, further comprising:  
2           a lubricant thickness determinator, for determining a thickness of a lubricant on said first  
3 object based upon said difference in phase.
- 1           46.   (New) The system of claim 42, further comprising:  
2           a carbon layer thickness determinator, for determining a thickness of a carbon layer of  
3 said first object based upon said difference in phase.
- 1           47.   (New) The system of claim 42, further comprising:  
2           a magnetic characteristic determinator, for determining a magnetic characteristic of said  
3 first object based upon said difference in phase.
- 1           48.   (New) The system of claim 42, further comprising:  
2           a Kerr effect determinator, for determining a Kerr effect of said first object based upon  
3 said difference in phase.
- 1           49   (New) The system of claim 42, further comprising a motor to adjust an angle of  
2 said quarter wave plate.
- 1           50.   (New) The system of claim 49 wherein said motor is an electromagnetic motor.
- 1           51.   (New) The system of claim 49 wherein said motor is a pneumatic motor.
- 1           52.   (New) The system of claim 49 wherein said motor is a piezoelectric motor.
- 1           53.   (New) The system of claim 49 wherein said motor is a piezoelectric motor.